

FACTORS INFLUENCING MOBILITY OF A JOINT



The temperature of the tissues and the efficiency of the warm-up

The warmer a muscle is the more efficiently it will operate reducing the risk of injury.

The neural receptor system present in all muscles around joints called proprioception

Proprioception is the name given to the collective activity of specialized sensory nerve endings which monitor change within the body due to movement and muscular activity. Put simply, it is the unconscious information collecting and processing system that allows us to close our eyes, stretch out our arm and touch the end of our nose, because the brain is able to coordinate the movement of the limb accurately without needing to see it. Further, it is the system that allows coordination of muscle activity to permit smooth movement of a limb.

The flexibility of muscles, tendons, ligaments and joint capsules

Muscles are the most flexible tissue stretching easily during movement.

Tendons connect muscles to bone and have less flexibility and are frequently a point of injury.

Ligaments are inelastic with a poor blood supply making healing following injury a slow process. The function of a ligament is to connect bone to bone stabilising a joint and preventing it dislocating.

Lack of flexibility means these structures often rupture rather than stretching. When beginning a new exercise routine, the speed with which these various structures will improve in fitness is directly related to their blood supply and

increasing the strength of a muscle too quickly can lead to problems with other joint structures.

The configuration of articular surfaces

There are a number of different types of joint in the body each characterised by varying degrees of flexibility.

Ball and socket joints such as the hip and shoulder are the most flexible. Other joints with varying degrees of movement are gliding or sliding, hinge, pivot, and condyle or saddle.

Age

Age not only effects the healing process, generally taking longer the older we become, but it can also effect flexibility.

In teenagers, bones can grow faster in length than the muscles that move them leading to 'growing pains'. For example Osgood Schlatters disease which can cause pain below the knee and up the front of the thigh as well as restriction of movement, due to the femur growing more quickly than the quadriceps muscle.

In later life restriction may be due to damage or degeneration of a joint such as osteo-arthritis.

Sex

There are physiological differences between men and women, such as the shape of the pelvis, which can result in differences in flexibility.

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